MN AFP Today’s Vision. Tomorrow’s Reality.

Metrics That Matter - Key Performance Indicators/Working Capital

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Agenda

- Introductions
- Working capital overview
- Key performance indicator (KPI) overview
- Treasury KPIs
- Accounts payable KPIs
- Accounts receivable KPIs
- Reporting, communication plan and on-going process
- Financial benchmarking & working capital analysis
- Q&A
Working Capital and Value Creation

Capital structure as a driver of shareholder value

- Increase Transaction Prices
- Reduce Costs
- Increase Volume / Market Share
- Reduce Capital Intensity

Maximize Cash Flow from Invested Capital

- Leverage
- Risk Management
- Return of Capital
- Liquidity Management
- Ratings Profile
- Cyclical “Cushion”

Optimize Cost of Capital

- Merger
- Acquisition

Minimize Price Relative to Value of Target Plus Synergy Value

- Sale
- Spin-off
- Carve-out

Maximize Corporate Clarity

“Growth” M&A
“Restructuring” M&A

Maximize Shareholder Value
Strategic Working Capital: beyond CCC

- **Capex Expansion**: Focus on how future additional volume will be managed.
- **New Leadership**: Establish goals/priorities given culture and ownership of firm.
- **New ERP**: Build better, automated processes rather than replicate old processes.
- **M&A Integration**: Capture cost synergies so deal becomes accretive and adds value sooner.
- **Fraud Prevention**: Review policies and ensure tight controls are in place.
- **Global Expansion**: Maintain control/visibility on international ops.
- **“Lean” Finance**: Incorporate “lean” Finance/Treasury concepts to lower costs.
What gets measured, gets managed

Metrics

• A numerical measure designed to identify and help manage specific activities, financial line items or risk present in ordinary operations.
• Provide an unbiased means of measuring the performance and activities of an organization.

KPIs

• All KPIs are metrics.
• Represent the ‘critical few’ metrics that are the most important to achieving success.
• Measures how effective an organization is at achieving the business targets or strategy.

A KPI is a metric that you have chosen, and agreed with your business partners, that will determine whether you are meeting your critical success factors.
You can’t get from there to here without the right tools.

Navigation: To plan, monitor and control the course and position of someone or something from one place to another.
Treasury’s transformation

Evolve from a tactician to a strategic advisor.

1. Link treasury performance to corporate goals
2. Increase transparency across the organization
3. Identify shortfalls and inefficient processes
4. Analyze and optimize processes
5. Maintain
Transformation involves lifting the veil of secrecy surrounding treasury.

Improved performance metrics establish treasury’s commitment to excellence.

Increased transparency may be uncomfortable at first.
What are you trying to measure and why?

Metrics shouldn’t exist in a vacuum.

- Is the effort linked to a new strategy?
- Are there issues facing the department/company?
- What are the end goals of the effort?
- What do you hope to accomplish through metrics?
- What will you be comparing the results to?
- What will you do with the results?

Metrics are a powerful tool that can transform how your team functions.
### Nature of metrics

<table>
<thead>
<tr>
<th>Strategic</th>
<th>Tactical</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Track treasury’s contribution to a new project or objective</td>
<td>- Track the efficiency of processes, minimization of error rates and achievement of returns on assets</td>
</tr>
<tr>
<td>- Develop on an “as needed” basis</td>
<td>- Activities are recurring</td>
</tr>
<tr>
<td>- Not relevant once project or objective is complete</td>
<td></td>
</tr>
</tbody>
</table>

![Map](map.png) ![Checklist](checklist.png)
Treasury key performance indicators

Cash forecast accuracy
- Investment income, interest expense, bank fees, trustee fees, etc.

Liquidity and cash
- Percent of daily cash balances vs. forecast
- Percent of non-interest bear cash vs. total cash
- Percent of restricted cash vs. total cash
- Days cash available
- Percent of committed credit vs. total credit available

Exposure management
- Variance to market rate at time of trade (trade rate – market rate at time of trade)/ market rate
- Fixed / Floating rate mix
- Hedge percent
  - principle value of identified hedged exposures/principle value of total identified exposures

Debt management
- Short term vs. long term debt mix
- Debt vs. Equity mix
- All-in interest rate vs. benchmark

Investment performance
- Portfolio credit rating (weighted average credit ratings vs. stated policy target)
- Maturity structure/schedule
Accounts payable key performance indicators

Working capital optimization:
- Average days payment outstanding (DPO)
- $ cash discounts taken
- $ rebates

Cycle time:
- Invoice cycle time (receipt to scheduled for payment)

Cost effectiveness:
- $ Unit cost to process an invoice
- $ Unit cost to process a payment

Staff productivity:
- # Invoices processed per Accounts Payable FTE
- # Payments per Accounts Payable FTE

Process efficiency:
- % Invoices straight-through processing (3 way match)
- % Electronic invoices
- % Electronic payments (ACH, card)
- % Cash discounts available that are taken

Other:
- % Vendor portal utilization

Measuring success
## Procure to pay metrics

### Key Inputs
- New vendor contracts approved/signed #
- POs #
- ASN #
- PO invoices #
- Non PO invoices #
- Time to approve # (days)
- AP Invoice processing FTEs #

### Metrics Process Inputs
- New and updated vendor master data
- Payment terms & cash discounts determined
- Invoice format and payment information entered
- Vendor performance
- Goods received
- ASN matched to goods
- Inventory updated
- Invoice discrepancies resolved
- Invoices approved
- Invoices set to pay

### Metrics Process Outputs
- New vendors entered #
- Active vendors #
- Preferred suppliers #,
- ASN #, %
- Vendor payments methods #,
- Vendors with cash discounts %
- POs electronic #, %
- ASN #, %
- Electronic invoices #,%
- Invoice cycle time # (days)
- Invoices per FTE #
- Payment cycle runs
- Checks issued & mailed
- ACH file sent
- Wires processed
- Credit card payments sent
- Positive pay file sent
- AP sub ledger reconciled to GL
- GL reconciled to bank
- Checks outstanding
- Accruals
- Escheatment items submitted
- Monthly AP Mgmt reporting
- Cash forecast for payables

### E2E Outputs
- Vendors with standard terms #, %
- Vendor payment methods #,
- Vendors with cash discounts %
- 2 way match % (PO, ASN)
- 3 way match % (PO, receipt, invoice)
- Unit cost: Cost per invoice $
- Electronic payments %
- Unit cost: Cost per payment $
- Cash discounts taken $
- Rebates $
- Cash forecast variance %

### Customer Service
- Vendor phone calls #
- Vendors with access to Portal #, %
- Vendor inquiries & problems resolved
- Vendor Portal data accurate & available 24/7
- # of inquiries and problems
- Root cause analysis of inquiries and problems

### Vendor Management
- Vendor contracts
- Procurement policies
- Vendor master data procedures

### PO & Receipt
- Purchase orders (paper & electronic)
- Contract terms and pricing
- Goods sent/services performed
- Advanced Shipping Notice (ASN)

### Invoicing
- PO invoices (paper & electronic)
- Non PO invoices (paper & electronic)
- 3 way match capabilities
- Approval hierarchy/policy & routing process

### Payments Sent
- Terms, due date, payment method, bank info & cash discounts offered per vendor master
- Final payment review/approval
- Check pre-register
- Payment files created

### Reconciliation & Reporting
- Payments issued
- Checks cleared
- AP transactions
- On line bank access and reports
- Escheatment policy
- Cash forecast template

### PO & Receipt Invoicing Payments

### Reconciliation & Reporting

### Customer Service

### Vendor management

### PO & receipt

### Invoicing

### Payments sent

### Reconciliation & reporting

### Customer service

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- Average Days Payable Outstanding DPO
- Cash forecast variance %
- Vendor Portal utilization %

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Accounts receivable key performance indicators

Working capital optimization:
- Average days sales outstanding (DSO) measured against best possible days sales outstanding (BPDSO)

Cycle time:
- # days to resolve payment discrepancies (deductions)

Cost effectiveness:
- % Invoice accuracy
- $ Unit cost to apply a payment
- $ Unit cost to collect
- % Invoices over 60 days
- $ Bad debt/write-off expenses

Staff productivity:
- # Receipts processed per Accounts Receivable FTE
- # Active customers per Credit/Collections FTE

Process efficiency:
- % Electronic invoices
- % Electronic payments
- % Payment application auto hit rate (no touch)
- # incurred deductions
- % collection effectiveness index

Other:
- Cash tolerance (small balance) write offs #, $, average amount
### Order to Cash Metrics

#### Key Inputs
- Completed customer application
- Credit policies
- Master data procedures
- New /existing customer credit apps received #
- Set up/amendments #
- Billing FTEs #
- Time to invoice # (days)
- Electronic or paper invoice sent to customer
- Reconcile billing & AR
- Invoices created #, $%
- Paper invoices #
- Electronic invoices #
- Errors by reason #, $, %
- Weighted average days unbilled
- EDI %
- Unit cost: Cost to invoice $
- ACH %
- Auto hit rate “no touch” %
- Unit cost: Payment application $
- Invoices paid
- Invoices marked for write off/bad debt
- Deductions written off or credit memos issued
- Over payments applied or written off or refunded
- Applied items closed automatically (STP)
- Items on account
- Items unprocessed
- Over/short pays coded
- Small balance auto write off
- Items not on account
- Items unprocessed
- Over/short pays coded
- Small balance auto write off
- Payments processed & electronic file transmitted
- ACH remit data transmitted
- Files uploaded
- File created and transmitted to HighRadius
- List of payments to be applied manually (wires, credit cards)
- Total unapplied cash coded by type and aging #, $, %
- Total applied by pay type #, $%
- Payment application cycle time # (days)
- Receipts per FTE #
- Open AR past due $, %
- % Current
- Repays #, $%
- Deductions closed by reason #, $
- Deductions per FTE #
- Collections per FTE #
- Collection letters generate; phone calls made; activities documented
- Invoices paid
- Invoices marked for write off/bad debt
- Deductions written off or credit memos issued
- Over payments applied or written off or refunded
- Reconciling items #, $
- Cash tolerance write offs #, $, average amount
- AR sub ledger reconciled to GL
- GL reconciled to bank
- Reserve and write off analysis
- Bad debt reserve updated
- Monthly AR Mgmt reporting
- Cash forecast for receivables
- AR transactions
- On line bank access and reports
- Cash forecast template
- Write off account detail

#### Key Outputs
- Sales orders
- Credit limit and terms
- Contract terms and pricing
- Billing information
- Billing procedures
- Checks
- ACH payments
- Wires
- Credit card charges
- Customer remit detail
- Payment instructions
- Bank files
- New and updated customer master data
- Credit terms determined
- Billing and payment information entered
- New /existing credit apps processed #
- Set up/amendments processed #
- Denied # and reasons
- Customers with standard terms %
- EDI %
- Unit cost: Cost to invoice $
- ACH %
- Auto hit rate “no touch” %
- Unit cost: Payment application $
- Invoice accuracy %
- Average Days Sales Outstanding (DSO) (compared to best possible DSO)
- Accounts Receivable Turnover (ART) ratio %
Management reporting

Scorecard example

<table>
<thead>
<tr>
<th>Metric</th>
<th>2015 Baseline</th>
<th>2015 Goal</th>
<th>MTD Score</th>
<th>Feb Actual</th>
<th>Mar Actual</th>
<th>Apr Actual</th>
<th>MTD (NV)</th>
<th>Full Year</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Electronic payments (Treasury)</td>
<td>Thomas</td>
<td>60%</td>
<td>60%</td>
<td>65%</td>
<td>65%</td>
<td>65%</td>
<td>5%</td>
<td>80%</td>
<td>Converted 50 treasury payments from wire to ACH in Q1</td>
</tr>
<tr>
<td>% Electronic payments (Accounts Payable)</td>
<td>Payer</td>
<td>62.3%</td>
<td>65%</td>
<td>62.5%</td>
<td>63.8%</td>
<td>64.1%</td>
<td>(0.3)%</td>
<td>76%</td>
<td>New vendors haven't been set up to pay via ACH yet</td>
</tr>
<tr>
<td>% Electronic payments (Accounts Receivables)</td>
<td>Cash</td>
<td>44.4%</td>
<td>45%</td>
<td>44.4%</td>
<td>45.5%</td>
<td>45.5%</td>
<td>0.5%</td>
<td>50%</td>
<td>Campaign to move customers to ACH is under way</td>
</tr>
</tbody>
</table>

Operational metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>2015 Baseline</th>
<th>2015 Goal</th>
<th>MTD Score</th>
<th>Feb Actual</th>
<th>Mar Actual</th>
<th>Apr Actual</th>
<th>MTD (NV)</th>
<th>Full Year</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash forecast variance</td>
<td>Sunny</td>
<td>10%</td>
<td>&lt; 5%</td>
<td>3%</td>
<td>8%</td>
<td>8%</td>
<td>(1)%</td>
<td>&lt; 5%</td>
<td>Variance was off due to CapEx expenses incurred but not forecasted</td>
</tr>
<tr>
<td>Bank fees (400’s)</td>
<td>Sunny</td>
<td>$150</td>
<td>&lt; $100</td>
<td>$5</td>
<td>$5</td>
<td>$5</td>
<td>$5</td>
<td>$50</td>
<td>Bank fees are trending favorable</td>
</tr>
<tr>
<td>Number of bank accounts</td>
<td>Sunny</td>
<td>200</td>
<td>185</td>
<td>190</td>
<td>191</td>
<td>191</td>
<td>(6)</td>
<td>150</td>
<td>Were not able to close 6 bank accounts as planned due to residual outstanding activity</td>
</tr>
<tr>
<td>Number of treasury wires</td>
<td>Sunny</td>
<td>420</td>
<td>365</td>
<td>400</td>
<td>352</td>
<td>368</td>
<td>(5)</td>
<td>200</td>
<td>On track to reduce the number of treasury wires</td>
</tr>
</tbody>
</table>

Reporting & dashboard examples

Scorecard
Management report
Dashboard
Communication plan

Only include metrics that are meaningful to the audience.

**What:**
- **Focus**
  - Limit the number of metrics to eight or fewer

**How:**
- **Visuals**
  - Reporting that show performance against goals/benchmarks

**Who:**
- **Stakeholders**
  - Make sure the message is easy to understand

**Ongoing feedback loop:**
- Gather input from stakeholders
- Revise KPIs & performance targets
- Communicate change
The way forward roadmap

1. **Define**
   - Identify the measurements, benchmarks, goals and process to gather data.

2. **Scorecard**
   - Measure and report the output to key stakeholders.

3. **Priorities**
   - Focus and reinforce the major initiatives that will drive improvement.

4. **Align**
   - Cascade to individual performance plans.

5. **Recognize**
   - Reward achievement and celebrate successes.

6. **Calibrate**
   - Evaluate relevance and adjust.

7. **Determine**
   - Determine the right KPIs based on strategic imperatives.
Tracking and communicating KPIs is critical to transformation and success.

Reward achievements and celebrate successes.

Periodically reassess relevance of measures and revise goals.

Measure, monitor and reward!!!
Financial benchmarking & working capital analysis
Benefits of benchmarking versus peer companies:

- Create sense of urgency
- Identify best in class
- Establish clear targets with measurable results
- Facilitate out of the box thinking and new ideas

Source: Sustainability Advantage: Benefits of a Gold standard Benchmark
### Financial Benchmarking

**Typical Progression**

**Five stages of benchmarking:**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Analysis</th>
<th>Integration</th>
<th>Action</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Indentify what is to be benchmarked</td>
<td>Step 4: Determine current performance ‘gap’</td>
<td>Step 6: Communicate benchmark findings and gain acceptance</td>
<td>Step 8: Develop action plans</td>
<td>Leadership position attained</td>
</tr>
<tr>
<td>Step 2: Identify comparable companies</td>
<td>Step 5: Project future performance levels</td>
<td>Step 7: Establish functional goals</td>
<td>Step 9: Implement specific action and monitor progress</td>
<td>Best practices fully integrated into process</td>
</tr>
<tr>
<td>Step 3: Determine data collection method and collect data</td>
<td></td>
<td></td>
<td>Step 10: Recalibrate benchmarks</td>
<td></td>
</tr>
</tbody>
</table>

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Source: Company Benchmarking for Competitive Advantage by Terry Pilcher Assistant Director – Department of Trade and Industry, UK
Financial benchmarking resources for middle market companies:

- Industry Trade Associations
- Vendors (D&B / Hoovers)
- Banking Partners (RMA data)
- Public Comps (CapIQ/Fact Set)
- CPAs / Consultants
- IRS and other Government Sources
Financial Benchmarking
Metrics that Drive Corporate Decision Making & Behavior

- **Credit Profile**
  - Debt / EBITDA
  - Interest Coverage Ratio
  - Cash Liquidity Profile
  - Bank and Credit Ratings

- **Efficiency**
  - Effective Borrowing Rate
  - Invested Capital
  - Cash Conversion Cycle
  - Working Capital (DPO, DSO, DIO)

- **Risk Management**
  - Fixed / Floating debt mix
  - Currency of Debt vs. Currency of Earnings
  - Foreign Exchange
Competitive Landscape: US Specialty Equipment Market

- Demand is driven by consumer spending
- The profitability of individual companies depends on effective marketing, efficient production, and product innovation
- Large companies have economies of scale in purchasing and production
- Small firms can compete by making specialty products
- The industry is highly concentrated with the top 50 companies accounting for more than 95% of industry revenue
- U.S. exports of specialty equipment are small; imports come primarily from China, Japan, Canada and Taiwan

Source: First Research
Specialty Equipment Manufacturing
Factors Driving the Industry: U.S.

- **More Powerful, Efficient Equipment**: Specialty equipment manufacturers are developing more products with fuel-injected engines to reduce emissions and improve fuel efficiency. Lithium-ion battery and brushless motor technologies have increased power and runtime and reduced charging times for battery-powered equipment.

- **Life-Cycle Management**: Manufacturers are working to better manage the life cycles of products to reduce waste and increase recycling. Equipment manufacturers work with home centers and other retailers to promote battery recycling.

- **Offshore Manufacturing Facilities**: Lower costs for labor and operations are driving more companies to manufacture in developing regions. Dispersing facilities internationally helps protect companies from regional economic downturns and positions plants closer to alternative sources of raw materials, as well as to new markets.

- **Multichannel Marketing**: Home centers and mass merchandisers account for about 80% of U.S. Specialty equipment sales. However, customers increasingly research products online, and use retailer and manufacturer websites to compare equipment features and pricing.

- **Volatile Raw Materials Costs**: Raw materials costs can represent more than 65% of sales. Certain Specialty equipment contains large amounts of steel, and steel prices can rise 30% or more in a year. The inability to pass raw materials price increases on to customers can reduce margins.

- **Product Liability**: Specialty equipment often have moving parts that can cause injury if misused, or if products have manufacturing defects. Companies self insure or purchase insurance to protect against losses from product liability claims.

Source: First Research
Threat of New Entrants
MODERATE

The market has huge growth potential. Owing to this many start-ups may be willing to enter the market, however, lack of sufficient funds and technology may restrict them from entering this market.

Threat of Rivalry
HIGH

Leading players like Husqvarna and Toro are making investments in developing countries like China and India. Their financial power may pose a significant threat to start-ups.

Bargaining Power of Suppliers
LOW

There are several suppliers of essential raw materials like steel, rubber, glass, and plastic. This makes the bargaining power of suppliers low.

Bargaining Power of Buyers
MODERATE

There are only a few successful and established vendors in the market; hence, the bargaining power of buyers is moderate.

Threat of Substitutes
MODERATE

Manual labor is a substitute for power lawn mowers.
**Operational Benchmarking Example 1**

### Operational Growth

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Co A</td>
<td>6.4%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Co B</td>
<td>10.6%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Co C</td>
<td>2.8%</td>
<td>29.2%</td>
</tr>
<tr>
<td>Co D</td>
<td>5.3%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Co E</td>
<td>9.4%</td>
<td>33.7%</td>
</tr>
<tr>
<td>Co F</td>
<td>7.9%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Co G</td>
<td>1.5%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Co H</td>
<td>8.8%</td>
<td>18.7%</td>
</tr>
<tr>
<td>Co I</td>
<td>5.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Co J</td>
<td>24.1%</td>
<td>24.1%</td>
</tr>
<tr>
<td>Co K</td>
<td>18.5%</td>
<td>18.5%</td>
</tr>
</tbody>
</table>

**Median:** 5.1%

**Average:** 4.3%

**Median:** 18.6%

**Average:** 19.7%

### EBITDA Margin Performance

<table>
<thead>
<tr>
<th>Company</th>
<th>2015A EBITDA Margin</th>
<th>2014A EBITDA Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co A</td>
<td>12.02%</td>
<td>11.98%</td>
</tr>
<tr>
<td>Co B</td>
<td>22.88%</td>
<td>24.80%</td>
</tr>
<tr>
<td>Co C</td>
<td>10.45%</td>
<td>12.36%</td>
</tr>
<tr>
<td>Co D</td>
<td>8.22%</td>
<td>10.23%</td>
</tr>
<tr>
<td>Co E</td>
<td>10.90%</td>
<td>12.90%</td>
</tr>
<tr>
<td>Co F</td>
<td>17.45%</td>
<td>18.53%</td>
</tr>
<tr>
<td>Co G</td>
<td>17.29%</td>
<td>17.29%</td>
</tr>
<tr>
<td>Co H</td>
<td>10.56%</td>
<td>13.72%</td>
</tr>
<tr>
<td>Co I</td>
<td>5.71%</td>
<td>6.11%</td>
</tr>
<tr>
<td>Co J</td>
<td>6.37%</td>
<td>7.37%</td>
</tr>
<tr>
<td>Co K</td>
<td>4.01%</td>
<td>4.66%</td>
</tr>
</tbody>
</table>

**Median:** 10.5%

**Average:** 11.4%

**Median:** 12.2%

**Average:** 12.7%
Individual Company Trends Benchmarking

Peer Working Capital Development

Peer Historical Cash Conversion Cycle

Company A Total Working Capital View
Impact Analysis for DPO Extension - example

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Improvement in Days Payable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/31/17 Trade Payables</td>
<td>2 Days</td>
</tr>
<tr>
<td></td>
<td>232.4</td>
</tr>
<tr>
<td>Adjusted Days Payable</td>
<td>57.3</td>
</tr>
<tr>
<td>Adjusted Trade Payables</td>
<td>$241.0</td>
</tr>
<tr>
<td>Impact on Cash Flow (1)</td>
<td>$8.5</td>
</tr>
<tr>
<td>% of LTM FCF</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Consideration......

With Strategic Payable Extension, leadership teams have the ability to redeploy found capital in various ways.....
Typical priorities and challenges for middle market companies:

- Financial Benchmarking
- Working Capital

Doing business globally

Financing growth and strategic investments

Managing risks

Increasing margins

Reducing debt/increasing liquidity

Funding day-to-day operations

Reducing costs

A focus on working capital management can positively impact business objectives
Why Working Capital Matters

1. Generates increased cash flow in the business
2. Reduces funding requirements, and interest expenses
3. Creates rating headroom and debt capacity
4. Provides funding for growth & increased capital expenditures
5. Reduces leverage – alleviates ratings pressure
6. Increases cash conversion – an important valuation metric
7. Reduces the level of invested capital, enhancing Return on Invested capital
Questions

Thank you!!

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kyle.mekemson@baml.com
Appendix

Treasury metrics
# Best practices in managing corporate liability

## Error rate

<table>
<thead>
<tr>
<th>Metric</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy of cash forecasts</td>
<td>$(\text{Actual cash balance minus forecasted cash balance}) / \text{forecasted cash balance}$</td>
</tr>
<tr>
<td>Accuracy of forecasted investment income</td>
<td>$(\text{Actual interest investment income minus forecasted investment income}) / \text{forecasted investment income}$</td>
</tr>
<tr>
<td>Accuracy of forecasted interest expense</td>
<td>$(\text{Actual interest expense minus forecasted interest expense}) / \text{forecasted interest expense}$</td>
</tr>
<tr>
<td>Accuracy of trustee/issuing, paying agent fees</td>
<td>$(\text{Actual fees minus forecasted fees}) / \text{forecasted fees}$</td>
</tr>
<tr>
<td>Percentage of payments containing errors</td>
<td>$\frac{\text{Number of payments by type containing errors}}{\text{Total number of payments released on time}}$</td>
</tr>
<tr>
<td></td>
<td>$\frac{\text{Number of payments containing errors}}{\text{Number of payments}}$</td>
</tr>
<tr>
<td></td>
<td>$\frac{\text{Total number of payments released on time}}{\text{Total number of released payments}}$</td>
</tr>
</tbody>
</table>
## Best practices in managing corporate liability

### Liquidity and cash management

<table>
<thead>
<tr>
<th>Metric</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage daily cash balances vs. forecast</td>
<td>Sum of daily cash balances / forecasted total cash balances</td>
</tr>
<tr>
<td>Percentage of non-interest bearing cash vs. total cash</td>
<td>Total balances in non-interest bearing accounts or instruments / total cash</td>
</tr>
<tr>
<td>Percentage of restricted cash vs. total cash</td>
<td>Total restricted cash / total cash</td>
</tr>
<tr>
<td>Days cash available</td>
<td>Total available cash / average value of disbursements per day</td>
</tr>
<tr>
<td>Percentage of committed credit</td>
<td>Total principal value of committed credit facilities / total principal value of all credit facilities</td>
</tr>
</tbody>
</table>
## Best practices in managing corporate liability

### Liquidity and cash management

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Portfolio credit rating</strong></td>
<td>▪ Weighted average of issuer credit ratings vs. stated policy benchmark</td>
</tr>
<tr>
<td><strong>Maturity structure</strong></td>
<td>▪ Principal value of investments at stated maturity intervals / principal value of entire portfolio</td>
</tr>
<tr>
<td><strong>Return vs. benchmark</strong></td>
<td>▪ Portfolio’s weighted average return vs. benchmark</td>
</tr>
<tr>
<td><strong>Segmentation of portfolio investment</strong></td>
<td>▪ Total principal of investments by maturity / total Investment portfolio  &lt;br&gt; ▪ Total principal of investments by issuer / total investment portfolio  &lt;br&gt; ▪ Total principal of investments by type of investment / total investment portfolio  &lt;br&gt; ▪ Total principal of investments by issuer credit rating / total investment portfolio</td>
</tr>
</tbody>
</table>
# Best practices in managing corporate liability

## Exposure management

<table>
<thead>
<tr>
<th>Exposure Management</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance to market rate at time of trade</td>
<td>((\text{Trade rate} - \text{market rate at time of trade}) / \text{market rate at time of trade})</td>
</tr>
<tr>
<td>Hedge percentage</td>
<td>(\frac{\text{Principal value of identified hedged exposures}}{\text{principal value of total identified exposures}})</td>
</tr>
<tr>
<td>Fixed floating rate mix</td>
<td>(\frac{\text{Total value of fixed rate exposure}}{\text{total value of fixed and floating rate exposure}})</td>
</tr>
</tbody>
</table>

## Debt management

<table>
<thead>
<tr>
<th>Debt Management</th>
<th>Formula</th>
</tr>
</thead>
</table>
| Debt mix                                                | \(\frac{\text{Principal value of outstanding short term debt}}{\text{principal value of outstanding debt}}\)  
\(\frac{\text{Principal value of outstanding long term debt}}{\text{principal value of outstanding debt}}\) |
| Rate vs. benchmark                                      | “All-in” interest rate on debt instruments vs. benchmark                |
| Credit available                                        | \(\frac{\text{Total principal value of drawn credit}}{\text{total principal value of all credit facilities}}\) |
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GTS Advisory
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As part of the GTS Advisory team, Cathy is dedicated to helping companies improve working capital and end-to-end processes. Her expertise in unit costing, operational strategies, capacity management and shared service models has enabled companies to optimize their procure-to-pay, order-to-cash and business performance while improving customer satisfaction.

Cathy joined the bank in 2004 as a Quality & Productivity Engineer and was instrumental in developing strategic planning and benchmarking processes to align with enterprise goals. Promoted to lead Global Credit Operations Business Performance Management, Cathy provided product expertise, risk mitigation and flawless execution to corporate and commercial credit clients.

Prior to joining the bank, Cathy led accounts receivable, revenue accounting and management at various companies in the consumer package goods, food, media and healthcare industries. During this period, Cathy led 10 multi-geographic business consolidations and optimization initiatives.

Cathy received her Bachelor’s degree from Gustavus Adolphus College. She resides in Charlotte, North Carolina with her family.
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Kyle joined Bank of America in 2005 within the Global Risk Management Department.

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